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Attorneys for Plaintiffs, Biofire Defense, LLC and University of Utah Research Foundation

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF UTAH, CENTRAL DISTRICT**

BIOFIRE DEFENSE, LLC a Delaware limited liability company; and UNIVERSITY OF UTAH RESEARCH FOUNDATION, a Utah non-profit corporation,

Plaintiffs
v.
FLUIDIGM CORPORATION, a Delaware corporation,
Defendant.

**COMPLAINT
WITH JURY DEMAND**

Case No.: 2:16-cv-00430-DBP
Judge: Dustin B. Pead

Plaintiffs BioFire Defense, LLC (hereinafter “BioFire”) and University of Utah Research Foundation (hereinafter “UURF”) (collectively “Plaintiffs”) by and through their counsel hereby file this Complaint with Jury Demand against Defendant Fluidigm Corporation (“Defendant”).

COMPLAINT

Plaintiffs complain and allege as follows:

PARTIES, JURISDICTION, AND VENUE

1. BioFire is a Delaware limited liability company having a principal place of business at 79 West 4500 South, Suite 14, Salt Lake City, Utah 84107.
2. UURF is a Utah non-profit corporation having a principal place of business at 201 South President's Circle, Room 209, Salt Lake City, Utah 84112.
3. Upon information and belief, Defendant is a Delaware company with its principal place of business at 7000 Shoreline Court, Suite 100, South San Francisco, California 94080.
4. Plaintiff brings this action under U.S. patent laws, 35 U.S.C. §§ 1 et seq.
5. This Court has subject matter jurisdiction over this action under 28 U.S.C. §§ 1331 and 1338.
6. This Court has supplemental jurisdiction over any state law, or statutory and common law claims pursuant to 28 U.S.C. § 1367.
7. Upon information and belief, this Court has specific personal jurisdiction over Defendant as Defendant has purposefully directed its activities toward the state of Utah and has sold the product at issue in this case into the state of Utah.
8. Upon information and belief, this Court has general personal jurisdiction over Defendant since its contacts with Utah are substantial, continuous, and systematic and this action is based upon activities that arise out of, or are related to, those contacts.
9. Venue is proper in this judicial district pursuant to 28 U.S.C. §1391 because Defendant conducts business in this district directly related to the patents at issue in this case, thereby causing harm to Plaintiffs in this judicial district.

BACKGROUND

10. BioFire is in the business of developing, manufacturing, marketing, distributing, and selling equipment and reagents used to monitor a DNA sample during the polymerase chain reaction ("PCR").

11. PCR is an important tool for biological agent identification because it allows a DNA sample to be replicated and amplified, allowing biological study of segments of DNA.

12. PCR uses temperature cycling to cause the two strands that comprise DNA to denature (separate). Specific primers then anneal (attach) to the individual DNA segments and the segments are replicated.

13. Frequently during PCR procedures, fluorescent dyes are added to the DNA sample. The use of fluorescent dyes enhances the detection process by allowing scientists and others using BioFire equipment and reagents to monitor fluorescence while the temperature of the DNA sample is altered during the PCR process.

14. BioFire offers several products that implement PCR in ways that provide unique advantages. For example, BioFire's devices are capable of decreasing the total time required for PCR amplification and fluorescing analysis and increasing the quality of the reaction.

15. Many of BioFire's PCR products and methods are covered by U.S. Patent No. 6,174,670 entitled "Monitoring Amplification of DNA During PCR," issued on January 16, 2001, (the "'670 Patent"). UURF is the owner and assignee of the '670 Patent and BioFire is the exclusive licensee. A copy of the '670 Patent is attached hereto as Exhibit A.

16. Additionally, many of BioFire's PCR products and methods are covered by U.S. Patent No. 7,670,832 entitled "System For Fluorescence Monitoring," for which a reexamination certificate was issued on September 21, 2015 (the "'832 patent"). UURF is the owner and assignee of the '832 Patent and BioFire is the exclusive licensee. A copy of the '832 Patent and Reexamination certificate are attached hereto as Exhibit B.

DEFENDANT'S MISCONDUCT

17. Upon information and belief, Defendant is in the business of making, using, selling, offering for sale, and/or importing into the United States products intended for the life science market, some of which use PCR.

18. Upon information and belief, among Defendant's products is a system called BioMark, which practices at least one claim of both the '670 Patent and the '832 Patent (hereinafter the "Infringing System").

19. Upon information and belief, Defendant makes, uses, sells, offers for sale, and/or distributes the Infringing System in the state of Utah.

20. Upon information and belief, Defendant also causes damages in the state of Utah, by selling and offering to sell and by inducing and contributing to the infringement of Plaintiffs' patents.

21. Upon information and belief, Defendant's continued manufacture, use, sale, offer for sale, and import of the Infringing System has injured, is injuring, and will continue to cause irreparable injury to Plaintiffs.

22. Upon information and belief, Plaintiffs have been and continue to be significantly damaged by Defendant's actions. So long as Defendant continues performing the unlawful and improper actions described in this Complaint, Plaintiffs will continue to suffer irreparable harm that will not be fully compensable by money damages.

**FIRST CAUSE OF ACTION
DIRECT PATENT INFRINGEMENT
35 U.S.C. § 271**

23. Plaintiffs hereby incorporate by reference each and every preceding allegation of this Complaint as if set forth fully herein.

Direct Infringement if the '670 Patent

24. Upon information and belief, Defendant has used the Infringing System to monitor mixtures comprising a nucleic acid sample and a nucleic acid binding fluorescent entity.

25. Upon information and belief, Defendant has also used Infringing Systems to analyze nucleic acid hybridization by monitoring fluorescence while changing temperature at a rate equal to or greater than 0.1° C.

26. Accordingly, Defendant is and has infringed claim 76 of the ‘670 Patent.

27. Upon information and belief, Defendant’s infringing activities have damaged Plaintiffs in an amount to be proven at trial. Among other remedies, Plaintiffs are entitled to its lost profits or, in the alternative, a reasonable royalty to adequately compensate Plaintiffs for Defendant’s infringing activities. Additionally, the harm to Plaintiffs arising from these acts by Defendant is not fully compensable by money damages. Plaintiffs have suffered, and continue to suffer, irreparable harm that has no adequate remedy at law and that will continue unless this infringing conduct by Defendant is preliminarily and permanently enjoined.

28. Upon information and belief, Defendant acted in an objectively reckless manner with respect to Plaintiffs’ patent rights. Upon information and belief, Defendant made, used, sold, and offered for sale its Infringing System knowing that it was highly likely that its acts would induce infringement of a valid patent. As a consequence, Defendant has engaged in willful infringement of the ‘670 Patent. Plaintiffs are therefore entitled to treble damages and attorneys’ fees as well as costs incurred in this action along with prejudgment interest under 35 U.S.C. §§ 284 and 285.

Direct infringement of the ‘832 Patent

29. Upon information and belief, Defendant has used the Infringing System in a manner that infringes at least independent claims 1, 11, 14 and 17 of the ‘832 Patent.

30. Upon information and belief, Defendant has used Infringing Systems to monitor a sample that comprises a nucleic acid and a fluorescent dye that provides a detectable signal used in generation of a melting curve.

31. Upon information and belief, Defendant's Infringing System comprises a heat exchange component, a control device used to operate the heat exchange component for thermal cycling, an excitation source for optically exciting the sample, a detector for detecting fluorescence, and a processor programmed to generate a melting curve.

32. Accordingly, Defendant is and has infringed claim 1 of the '832 Patent.

33. Additionally, upon information and belief, Defendant has used an Infringing System to combine nucleic acid with binding dyes that provide a detectable signal that can be used to generate a melting curve.

34. Accordingly, Defendant is and has infringed claim 11 of the '832 Patent.

35. Additionally, upon information and belief, Defendant has used the Infringing System to generate a melting curve from the amplification of a sample comprising at least one nucleic acid probe labeled with fluorescent dye.

36. Accordingly, Defendant is and has infringed claim 14 of the '832 Patent.

37. Additionally, upon information and belief, Defendant has used the Infringing System to practice each and every limitation of claim 17 of the '832 Patent.

38. Accordingly, Defendant is and has infringed claims 17 of the '832 Patent.

39. Upon information and belief, Defendant's infringing activities have damaged Plaintiffs in an amount to be proven at trial. Among other remedies, Plaintiffs are entitled to its lost profits or, in the alternative, a reasonable royalty to adequately compensate Plaintiffs for Defendant's infringing activities. Additionally, the harm to Plaintiffs arising from these acts by

Defendant is not fully compensable by money damages. Plaintiffs have suffered, and continue to suffer, irreparable harm that has no adequate remedy at law and that will continue unless this infringing conduct by Defendant is preliminarily and permanently enjoined.

40. Upon information and belief, Defendant acted in an objectively reckless manner with respect to Plaintiffs' patent rights. Upon information and belief, Defendant made, used, sold, and offered for sale its Infringing System knowing that it was highly likely that its acts would induce infringement of a valid patent. As a consequence, Defendant has engaged in willful infringement of the '832 Patent. Plaintiffs are therefore entitled to treble damages and attorneys' fees as well as costs incurred in this action along with prejudgment interest under 35 U.S.C. §§ 284 and 285.

**SECOND CAUSE OF ACTION
INDUCED PATENT INFRINGEMENT
35 U.S.C. § 271**

41. Plaintiffs hereby incorporate by reference each and every preceding allegation of this Complaint as if set forth fully herein.

Induced Infringement of the '670 Patent

42. Upon information and belief, Defendant actively induces its customers to make use of the Infringing Products in a manner that infringes claim 76 of the '670 Patent.

43. Upon information and belief, Defendant's literature associated with the Infringing System instructs users on the use of a mixture comprising a nucleic acid sample and a nucleic acid binding fluorescent entity. Upon information and belief, the Infringing System then analyzes nucleic acid hybridization by monitoring fluorescence while changing temperature at a rate equal to or greater than 0.1° C.

44. Upon information and belief, Defendant's customers have used Infringing Systems to monitor mixtures comprising a nucleic acid sample and a nucleic acid binding fluorescent entity and have used the Infringing System to then analyze nucleic acid hybridization by monitoring fluorescence while changing temperature at a rate equal to or greater than 0.1° C.

45. At no time have Plaintiffs granted Defendant or users of the Infringing System permission, license, or authorization to practice the claims of the '670 Patent.

46. Accordingly, Defendant's customers are and have infringed claim 76 of the '670 Patent.

47. Accordingly, Defendant is and has induced its customers to infringe claim 76 of the '670 Patent.

48. Upon information and belief, Defendant possessed specific intent to encourage its customers to make use of the Infringing System in a manner that Defendant knew, or should have known, would infringe the '670 Patent.

49. Upon information and belief, the Infringing System is known by Defendant to be especially made or especially adapted for use in practicing the method taught by claim 76 of the '670 Patent.

50. Upon information and belief, Defendant's infringing activities have damaged Plaintiffs in an amount to be proven at trial. Among other remedies, Plaintiffs are entitled to its lost profits or, in the alternative, a reasonable royalty to adequately compensate Plaintiffs for Defendant's infringing activities. Additionally, the harm to Plaintiffs arising from these acts by Defendant is not fully compensable by money damages. Plaintiffs have suffered, and continue to suffer, irreparable harm that has no adequate remedy at law and that will continue unless this infringing conduct by Defendant is preliminarily and permanently enjoined.

51. Upon information and belief, Defendant acted in an objectively reckless manner with respect to Plaintiffs' patent rights. Upon information and belief, Defendant made, used, sold, and offered for sale its Infringing System knowing that it was highly likely that its acts would induce infringement of a valid patent. As a consequence, Defendant has engaged in willful infringement of the '670 Patent. Plaintiffs are therefore entitled to treble damages and attorneys' fees as well as costs incurred in this action along with prejudgment interest under 35 U.S.C. §§ 284 and 285.

Induced Infringement of the '832 Patent

52. Upon information and belief, Defendant actively induces its customers to make use of the Infringing Products in a manner that infringes at least independent claims 1, 11, 14, and 17 of the '832 Patent.

53. Upon information and belief, Defendant's literature associated with the Infringing System instructs users of the Infringing System on the use of nucleic acid and a fluorescent dye that provides detectable signals used in generation of a melting curve and an excitation source.

54. Upon information and belief, Defendant's customers have used the Infringing System to monitor a sample that comprises a nucleic acid and a fluorescent dye that provides a detectable signal used in generation of a melting curve.

55. Upon information and belief, Defendant's Infringing System comprises a heat exchange component, a control device used to operate the heat exchange component for thermal cycling, an excitation source for optically exciting the sample, a detector for detecting fluorescence, and a processor programmed to generate a melting curve.

56. At no time have Plaintiffs granted Defendant or users of the Infringing System permission, license, or authorization to practice the claims of the '832 Patent.

57. Accordingly, Defendant's customers are and have infringed claim 1 of the '832 Patent.

58. Therefore, Defendant is and has induced its customers to infringe claim 1 of the '832 Patent.

59. Upon information and belief, the Infringing System comprises a heat exchange component, a control device used to operate the heat exchange component for thermal cycling, an excitation source for optically exciting the sample, a detector for detecting fluorescence, and a processor programmed to generate a melting curve.

60. Additionally, upon information and belief Defendant's literature associated with the Infringing System instructs users of the Infringing System on the use of nucleic acid binding dyes to provide a detectable signal that can be used to generate a melting curve.

61. Upon information and belief, Defendant's customers have used the Infringing System and nucleic acid binding dyes to provide a detectable signal and generate a melting curve.

62. Accordingly, Defendant's customers are and have infringed claim 11 of the '832 Patent.

63. Therefore, Defendant is and has induced infringement of claim 11 of the '832 Patent.

64. Additionally, upon information and belief, Defendant teaches its customers to use the Infringing System to generate a melting curve from the amplification of a sample comprising at least one nucleic acid probe labeled with fluorescent dye.

65. Upon information and belief, Defendant's customer have used the Infringing System to generate a melting curve from the amplification of a sample comprising at least one nucleic acid probe labeled with fluorescent dye.

66. Accordingly, Defendant's customers are and have infringed claim 14 of the '832 Patent.

67. Accordingly, Defendant is and has induced infringement claim 14 of the '832 Patent.

68. Additionally, upon information and belief Defendant teaches its customers to use the Infringing System to practice each and every limitation of claim 17 of the '832 Patent.

69. Upon information and belief, Defendant's customers have infringed claim 17 of the '832 Patent.

70. Accordingly, Defendant is and has induced infringement of claim 17 of the '832 Patent.

71. Upon information and belief, Defendant possessed specific intent to induce and encourage its customers to make use of the Infringing Product in a manner that Defendant knew, or should have known, would infringe the '832 Patent.

72. Upon information and belief, the Infringing System is known by Defendant to be especially made or especially adapted for use in an infringement of the '832 Patent.

73. Upon information and belief, Defendant's infringing activities have damaged Plaintiffs in an amount to be proven at trial. Among other remedies, Plaintiffs are entitled to its lost profits or, in the alternative, a reasonable royalty to adequately compensate Plaintiffs for Defendant's infringing activities under 35 U.S.C. §284. Additionally, the harm to Plaintiffs arising from Defendant's acts is not fully compensable by money damages. Plaintiffs have suffered, and continue to suffer, irreparable harm that has no adequate remedy at law and that will continue unless this infringing conduct by Defendant is preliminarily and permanently enjoined.

74. Upon information and belief, Defendant acted in an objectively reckless manner with respect to Plaintiffs' patent rights. Upon information and belief, Defendant made, used, sold, and offered for sale its Infringing Product knowing that it was highly likely that its acts would induce the infringement of a valid patent. As a consequence, Defendant has engaged in willful induced infringement of the '867 Patent. Plaintiffs are therefore entitled to treble damages and attorneys' fees as well as costs incurred in this action along with prejudgment interest under 35 U.S.C. §§ 284 and 285.

**THIRD CAUSE OF ACTION
CONTRIBUTORY INFRINGEMENT
35 U.S.C. § 271**

75. Plaintiffs hereby incorporates by reference each and every preceding allegation of this Complaint as if set forth fully herein.

Contributory Infringement of the '670 Patent

76. Upon information and belief, Defendant actively contributes to the infringement of claim 76 of the '670 Patent by providing the Infringing System to its customers, who then practice each and every limitation of the method taught by claim 76 of the '670 Patent.

77. Upon information and belief, Defendant's provides literature associated with the Infringing System instructing users on the use of a mixture comprising a nucleic acid sample and a nucleic acid binding fluorescent entity. Upon information and belief, the Infringing System then analyzes nucleic acid hybridization by monitoring fluorescence while changing temperature at a rate equal to or greater than 0.1° C.

78. Accordingly, Defendant contributes to the infringement of claim 76 of the ‘670 Patent.

79. Upon information and belief, Defendant possessed specific intent to contribute to the infringement of the ‘670 Patent.

80. Upon information and belief, the Infringing System is known by Defendant to be especially made or especially adapted for use in practicing the method taught by claim 76 of the ‘670 Patent.

81. Upon information and belief, Defendant’s infringing activities have damaged Plaintiffs in an amount to be proven at trial. Among other remedies, Plaintiffs are entitled to its lost profits or, in the alternative, a reasonable royalty to adequately compensate Plaintiffs for Defendant’s infringing activities. Additionally, the harm to Plaintiffs arising from these acts by Defendant is not fully compensable by money damages. Plaintiffs have suffered, and continue to suffer, irreparable harm that has no adequate remedy at law and that will continue unless this infringing conduct by Defendant is preliminarily and permanently enjoined.

82. Upon information and belief, Defendant acted in an objectively reckless manner with respect to Plaintiffs’ patent rights. Upon information and belief, Defendant made, used, sold, and offered for sale its Infringing System knowing that it was highly likely that its acts would contribute to the infringement of a valid patent. As a consequence, Defendant has engaged in willful contributory infringement of the ‘670 Patent. Plaintiffs are therefore entitled to treble damages and attorneys’ fees as well as costs incurred in this action along with prejudgment interest under 35 U.S.C. §§ 284 and 285.

Contributory Infringement of the ‘832 Patent

83. Upon information and belief, Defendant actively contributes to the infringement of at least independent claims 1, 11, 14, and 17 of the ‘832 Patent.

84. Upon information and belief, Defendant’s literature associated with the Infringing System instructs its customers on the use of a fluorescent dye that provides detectable signals used in generation of a nucleic acid melting curve.

85. Upon information and belief, the Infringing System comprises a heat exchange component, a control devices used to operate the heat exchange component for thermal cycling, a detector for detecting fluorescence, and a processor programmed to generate a melting curve.

86. Accordingly, Defendant contributes to the infringement of claim 1 of the ‘832 Patent.

87. Additionally, upon information and belief Defendant’s literature instructs customers on the use of nucleic acid binding dyes to provide a detectable signal that can be used to generate a melting curve.

88. Accordingly, Defendant contributes to the infringement of claim 11 of the ‘832 Patent.

89. Additionally, upon information and belief Defendant contributes to the infringement of claim 17 of the ‘832 Patent.

90. Upon information and belief, Defendant possessed specific intent to encourage its customers to make use of the Infringing Product in a manner that Defendant knew, or should have known, would infringe the ‘832 Patent.

91. Upon information and belief, the Infringing System is known by Defendant to be especially made or especially adapted for use in an infringement of the ‘832 Patent.

92. Upon information and belief, Defendant's infringing activities have damaged Plaintiffs in an amount to be proven at trial. Among other remedies, Plaintiffs are entitled to its lost profits or, in the alternative, a reasonable royalty to adequately compensate Plaintiffs for Defendant's infringing activities under 35 U.S.C. §284. Additionally, the harm to Plaintiffs arising from Defendant's acts is not fully compensable by money damages. Plaintiffs have suffered, and continue to suffer, irreparable harm that has no adequate remedy at law and that will continue unless this infringing conduct by Defendant is preliminarily and permanently enjoined.

93. Upon information and belief, Defendant acted in an objectively reckless manner with respect to Plaintiffs' patent rights. Upon information and belief, Defendant made, used, sold, and offered for sale its Infringing Product knowing that it was highly likely that its acts would constitute contributory infringement of a valid patent. As a consequence, Defendant has engaged in willful contributory infringement of the '867 Patent. Plaintiffs are therefore entitled to treble damages and attorneys' fees as well as costs incurred in this action along with prejudgment interest under 35 U.S.C. §§ 284 and 285.

WHEREFORE, it is respectfully requested that the Court enter judgment in favor of Plaintiffs as follows:

- A. That the Court enter judgment that Defendant has infringed the '670 Patent and the '832 Patent.
- B. That the Court enter judgment that Defendant has induced the infringement of the '670 Patent and the '832 Patent.
- C. That the Court enter judgment that Defendant has contributorily infringed the '670 Patent and the '832 Patent.

- D. That Defendant be ordered to pay damages to Plaintiffs, together with interest, in an amount to be determined by this Court.
- E. That the Court award Plaintiffs treble damages pursuant to 35 U.S.C. §284.
- F. That the Court award Plaintiffs punitive damages.
- G. That the Court award Plaintiffs costs and attorneys' fees related to this action pursuant to 35 U.S.C. §285.
- H. That the Court award Plaintiffs prejudgment interest.
- I. That Plaintiffs have such other and further relief as shall seem just and proper to the Court.
- J. That the Court grant preliminary and permanent injunctive relief enjoining Defendant, its officers, directors, principals, agents, servants, employees, successors and assigns, and all other aiding, abetting, or acting in concert or active participation therewith, from directly or indirectly infringing the '670 Patent and the '832 Patent, including with limitation, precluding Defendant from making, using, selling, offering for sale, or importing the Infringing System.

JURY DEMAND

Plaintiffs demand that all claims and causes of action raised in this Complaint be tried to a jury to the fullest extent possible under the United States and Utah Constitutions.

DATED this 23rd day of May, 2016.

THORPE NORTH & WESTERN, LLP

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*Attorneys for Plaintiff, Biofire Defense, LLC and
University of Utah Research Foundation*